RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Log Event A

Borehole # 41-00-03

Borehole Information

Farm : SX **Tank :** SX **Site Number :** 299-W23-2
N-Coord : 35,425 **W-Coord :** 75,605 **TOC Elevation :** 663.48
Water Level, ft : 212.4 **Date Drilled :** 9/9/1954

Casing Record

Type : Steel-welded **Thickness :** 0.313 **ID, in. :** 8
Top Depth, ft. : 0 **Bottom Depth, ft. :** 235

Type : Steel-welded **Thickness :** 0.250 **ID, in. :** 4
Top Depth, ft. : 1 **Bottom Depth, ft. :** 170

Equipment Information

Logging System : 1 **Detector Type :** HPGe **Detector Efficiency:** 35.0 %
Calibration Date : 10/1997 **Calibration Reference :** GJO-HAN-20

Logging Information

Log Run Number : 1 **Log Run Date :** 1/21/98 **Logging Engineer:** Alan Pearson
Start Depth, ft.: 0.0 **Counting Time, sec.:** 100 **L/R :** L **Shield :** N
Finish Depth, ft. : 53.0 **MSA Interval, ft. :** 0.5 **Log Speed, ft/min.:** n/a

Log Run Number : 2 **Log Run Date :** 1/22/98 **Logging Engineer:** Alan Pearson
Start Depth, ft.: 52.0 **Counting Time, sec.:** 100 **L/R :** L **Shield :** N
Finish Depth, ft. : 145.0 **MSA Interval, ft. :** 0.5 **Log Speed, ft/min.:** n/a

Log Run Number : 3 **Log Run Date :** 1/23/98 **Logging Engineer:** Alan Pearson
Start Depth, ft.: 223.0 **Counting Time, sec.:** 100 **L/R :** L **Shield :** N
Finish Depth, ft. : 144.0 **MSA Interval, ft. :** 0.5 **Log Speed, ft/min.:** n/a

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Analysis Information

Analyst : E. Larsen

Data Processing Reference : MAC-VZCP 1.7.9 Analysis Date : 3/2/98

Analysis Notes :

The post-survey field verification spectra for each logging run met the acceptance criteria established for peak shape and system efficiency; however, one of the pre-survey verification spectra failed to meet this criteria. The energy calibration and peak-shape calibration from the accepted calibration spectrum that most closely matched the field data were used to establish the peak resolution and channel-to-energy parameters used in processing the spectra acquired during the logging operation.

A casing correction factor of 0.50 in. was applied to the concentration data because it most closely matched the reported casing thickness of 0.563.

An analysis of the shape factors associated with applicable segments of the spectra was performed. The shape factors provide insights into the distribution of the Cs-137 contamination and into the nature of zones of elevated total count gamma-ray activity not attributable to gamma-emitting radionuclides.

Log Plot Notes:

Separate log plots show the man-made and the naturally occurring radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations. Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A separate log plot shows the variations in the volumetric moisture content of the sediments surrounding this borehole. Uncertainty bars on the plot show the counting uncertainties for selected measurements as the 1-sigma (68%) confidence intervals. Also included is a plot of the thermal neutron count rate data, which is useful for interpreting the construction of this borehole.

A combination plot includes the SGLS man-made and natural radionuclide data and the total gamma activity derived from the spectral data. Also included is the profile of the relative moisture content obtained from the neutron-neutron moisture logging system.